

Abstract

A semiconductor component includes a substrate, bonding
5 pads on the substrate, and external contacts bonded to the
bonding pads. Exemplary external contacts include solder
balls, solder bumps, solder columns, TAB bumps and stud
bumps. Preferably the external contacts are arranged in a
dense array, such as a ball grid array (BGA), or fine ball
10 grid array (FBGA). The component also includes a polymer
support member configured to strengthen the external
contacts, absorb forces applied to the external contacts, and
prevent separation of the external contacts from the bonding
pads. In a first embodiment, the polymer support member
15 comprises a cured polymer layer on the substrate, which
encompasses the base portions of the external contacts. In a
second embodiment, the polymer support member comprises
support rings which encompass the base portions of the
external contacts. In either embodiment the polymer support
20 member transfers forces applied to the external contacts away
from the interface with the bonding pads, and into the center
of the contacts.